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EXAMINER	
SUNDARARAMAN, VIKRAM P	

ART UNIT	PAPER NUMBER
3735	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/713,440	EATON ET AL.	
	Examiner	Art Unit	
	Vikram P. Sundararaman	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *19 and 21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-18,20,and 22-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species: Group 1: Claims 18 and 20 & Group 2: Claims 19 and 21. The species are independent or distinct because the claimed subject matter falls under a patently distinct Class/Subclasses.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Group 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

2. During a telephone conversation with Charles G. Call (Customer No. 021253) on may 24, 2006 at 5:04pm a provisional election was made without traverse to prosecute

the invention of Groups I and II, Claims 18 and 20. Applicant in replying to this Office action must make affirmation of this election. Claims 19 and 21 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 1** recites the limitation "said node data node" in Line 6 of the claim. **Claim 1** further recites the limitation "said power distribution conductor" in Lines 8-9 of the claim. **Claim 3** recites the limitation "said data node" in line 2 of the claim. **Claim 8** recites the limitation, "said sensing probe" in lines 2 and 3-4 of the claim and the limitation "said biopotential sensor" in line 4 of the claim. In each of these instances, there is insufficient antecedent basis for these limitations in the claim.

5. For the purposes of compact prosecution examiner will examine the above rejected claim as best understood by the examiner. In this case, the phrase "said node data node" will be interpreted as "said data acquisition node," and similarly the phrase "said power distribution conductor" with be interpreted as "said data distribution conductors." The phrase "said sensing probe" will be taken as "said probe" and "said biopotential sensor" will be taken as "said sensor." Applicant is requested to amend these claims with the appropriate corrections to overcome the claim rejections.

Claim Rejections - 35 USC § 101

6. **Claims 5, 7, 8, 14, 28-29,31, and 34-36** are rejected under 35 U.S.C. 101 because the claimed inventions are directed to non-statutory subject matter. **Claim 5** recites the limitation "for movement toward and away from said human head" on Lines 2-3 of the claim. **Claim 7** recites, "against the skin" on lines 3 of the claim. Claim 8 recites, "adjacent to said human head" on lines 3 of the claim and further recites, "said human head" on lines 4-5 of the claim. **Claim 14** recites, "conforms to the shape of said human head" on lines 3-4 of the claim. **Claim 28** recites, "on a human head" on lines 2-3 of the claim. **Claim 29** recites, "with the skin at said selected position" on line 2 of the claim. **Claim 31** recites, "against the skin" on line 3 of the claim. **Claim 34** recites, "the human head of the wearer" on line 2 of the claim and further recites, "from said human head" on line 4 of the claim, and still further recites, "at or near a selected position on the head" on lines 5 of the claim. **Claim 35** recites, "with the skin at said selected position" on line 3 of the claim. Lastly, **Claim 36** recites, "against the skin" on line 3 of the claim. In each instance, the human body is non-statutory subject matter and cannot positively be claimed. To overcome these rejections, for example, lines 3-4 of Claim 14 should be replaced with "capable of conforming to the shape of a human head."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1-2, 12 and 14-17** are rejected under 35 U.S.C. 102(b) as being anticipated by Imran, US 5,479,934, hereinafter referred to as "Imran."

9. As to **Claim 1**, Imran teaches ***a system for acquiring data indicating brain activity*** – see Title – that includes:

a. ***A mechanical support frame adapted to be worn on the head*** – see FIG. 1 – that further includes: ***a plurality of mechanically connected rails*** – Column 3, Lines 5-10 – ***each of said rails including at least one data distribution conductor extending along substantially the entire length of said rail*** and ***the data distribution conductors in all of said rails being electrically connected together to form a data transmission network*** – Column 4, Line 54-Column 5, Line 5;

b. ***At least one data acquisition node mounted of one of said rails, said node data node including a sensor for acquiring data indicating brain activity from a localized area on said human head, said data node including means for transmitting said data via said power distribution*** – Column 4, Lines 7-19; and

c. ***A host node mounted on one of said rails for receiving data via said data distribution network for said data acquisition node and for relaying said data to an external utilization device*** – Column 5, Lines 59-61.

10. As to **Claim 2**, Imran teaches, "outputs are brought from the electrode assemblies, 31, to the electronics module, 107." Furthermore, Imran teaches that the electronic module has a source of power via a battery pack, 111 – Column 6, Lines 1-19. Therefore it is inherent that "conductors, 68" taught by Imran are capable of being used for both data and ***power distribution***.

11. As to **Claim 12**, Imran teaches ***a reference signal conductor and a reference node mounted on one of said rails for connecting a reference signal conductor to an external object*** – Column 6, Lines 9-19.

12. As to **Claim 14**, Imran teaches ***where said intersecting rails are curved such that said support frame forms a helmet that defines an anatomically shaped cavity that surrounds and substantially conforms to the shape of a human head*** – See FIGS. 1-2. Examiner also takes official notice that it well known in the art to provide a mechanical support frame that conforms to the shape of the human head.

13. As to **Claims 15-17**, Imran teaches ***wherein said data acquisition node acquires electroencephalography data; a plurality of further data acquisition nodes;*** *and* ***wherein at least some of the further data acquisition nodes acquire electroencephalography data.*** – Column 3, Lines 1-6.

14. Claims **28-29 and 33** are rejected under 35 U.S.C. 102(b) as being anticipated by Levendowski et al., US 6,381,481 B1, hereinafter referred to as "Levendowski."

15. As to **Claim 28**, Levendowski teaches ***a system for acquiring data indicating brain activity***, or a "portable EEG electrode locator headgear" –that includes ***a rigid helmet defining an interior cavity shaped to conform to and be worn on a human***

head – See FIG. 1: a top perspective view of a preferred embodiment of the EEG electrode headgear – ***a plurality of data acquisition sensors attached to said helmet at adjustable spaced apart locations thereon, each including a sensing element which extends inwardly from said helmet to a selected position on or near said human head*** -- Column 8, Lines 24-42 – and ***a radio transceiver mounted on said helmet for transmitting data acquired by said sensors to a remote data utilization device*** – Column 12, Lines 57-59.

16. As to **Claim 29**, the "disposable EEG electrodes" taught by Levendowski – Column 2, Lines 60-65 – are capable of establishing an electrically conductive with the skin at said selected position for acquiring data in the form of a biopotential signal.

17. As to **Claim 33**, Levendowski teaches ***wherein said radio transceiver transmits data acquired by said sensors in digital form to said remote data utilization device*** – Column 6, Lines 4-25.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Imran in view of Schmidt et al., US 4,770,180, hereinafter referred to as "Schmidt." As to **Claim**

3, Imran teaches a system as set forth in Claim 1 as previously described. What Imran does not teach, however, is ***wherein said data node is mounted for adjustable movement along the rail upon which it is mounted and includes means for mechanically securing said data node in place at a desired position on said rail upon which it is mounted.*** Schmidt teaches an "electroencephalographic head set with a disposable monitor" – that includes "a slot, 130, 5/16 inches wide and 1 ¼ inches long that can be used for adjusting the placement of the monitors, 300, on the head" – Column 2, Lines 51-54 and See FIG. 1. Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify Imran with the teachings of Schmidt to include adjustable movement mounts with means for mechanically securing data nodes at desired positions on the rail upon which it is mounted, since Schmidt teaches the allowable holders are beneficial as they allow the placement and contact force to be adjusted.

20. **Claims 4-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Imran in view of Schmidt, and in further view of McIntyre et al., US 2,549,836, hereinafter referred to as "McIntyre."

21. As to **Claim 4**, the combination of Imran in view of Schmidt teaches the limitations at set forth in Claim 3. What the combination of Imran in view of Schmidt does not teach is ***distribution nodes for mechanically connecting rails at an intersecting position, each of said distribution nodes being mounted for adjustable movement along one of said rails.*** McIntyre teaches an "electrode-carrying headgear for electroencephalographic analysis" in which it is clear from FIG 1

that there is a mechanical connection between a horizontal rail member and a vertical member in which there is an adjustable movement in the vertical direction. Furthermore, McIntyre teaches "two members, 11 and 12, which arch above the head and which, at their lower ends, are pivotally connected as at, 13, to the oval bands at its opposite sides... which facilitate pivotally adjusting the arched members and securing them in different adjusted positions" – Column 1, Lines 47-54 and See FIG. 1. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify the teachings of the combination of Imran in view of Schmidt to include distribution nodes for mechanically connecting rails at an intersecting position for adjustable movement along the rails, as it would be beneficial to have proper adjustment around a user's head.

22. As to **Claims 5-8**, McIntyre further teaches ***wherein said sensor*** (15) ***is mounted on a probe mounted on said data node*** (36) ***for movement toward and away from said human head; wherein said sensor comprises a biopotential electrode adapted to establish electrical contact with the human skin; said data acquisition node includes means for resiliently forcing said biopotential electrode against the skin; and a control knob which permits better contact*** – Column 3, Line 33-Column 4, Line7 and See FIG. 5.

23. **Claims 9-11 and 22-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Imran in view of Eloranta et al., US 6,718,191 B2, hereinafter referred to as "Eloranta."

24. As to **Claims 9 and 24**, Imran teaches a system as set forth in Claim 1 as previously described. What Imran does not teach, however, is ***where data node includes an analog-to-digital converter.*** Eloranta teaches a "skin potential measuring sensor" in which "the elements required for measuring, processing, and digitizing the signal from the measuring electrode are located close to the electrode" – Column 1, Lines 47-49. Both Imran and Eloranta teach using electrodes to measure skin potential and transferring data from such electrodes. Therefore it would have been obvious to one with ordinary skill in the art to modify the data acquisition node taught by Imran to include an analog-to-digital converter in the data acquisition node, as Eloranta teaches that by placing the signal processing, measuring, and digitizing elements into close vicinity of the measuring electrode, the measured analog skin potential signal can be converted into a digital signal without any transfer wires" to eliminate any errors caused by transmission over wires.

25. As to **Claim 10**, Imran teaches ***where digital data is serialized,*** "The electronics module, 107, carries transmitter circuitry, 128, which is shown in FIG. 15A" in which, "the A/D converter 138 is of a conventional type and is under the control of a logic unit 139 and provides its output to a parallel-to-serial converter 146" – Column 7, Lines 22-23 and Line 62-64.

26. As to **Claim 11**, it is understood that since Imran teaches multiple electrode holders, the multiple conductors, 68, for each electrode simultaneously carry a different data quantity along the said rails.

27. As to **Claim 22**, Eloranta teaches ***wherein data acquisition node includes a sensor*** and ***an amplifier having an input connected to the said sensor***, -- Column 2, Lines 19-25. It is well known in the art that the measuring electrode taught by Eloranta is capable of producing an analog electrical signal whose amplitude can be indicative of brain activity and also that an amplifier can amplify an analog signal.

28. As to **Claims 23 and 25**, Eloranta teaches that the "sensor can directly be connected to [the] digital data processing system" – Column 1, Lines 40-42.

29. **Claims 13, 26, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Imran in view of Levendowski et al., US 6,381,481 B1, hereinafter referred to "Levendowski."

30. As to **Claim 13,** Imran teaches the limitations of Claim 1 as described previously. What Imran does not teach is ***where host node includes a radio communications transceiver for transmitting said data to an external utilization device***. Levendowski teaches a "portable EEG electrode locator headgear" – Title – wherein "Radio frequency transmission is currently preferred for communication of the EEG signals to an RF receiver, 188, connected to a computing device, 190, used for acquiring and analyzing the digital EEG signals from the user" – Column 12, Line 65 – Column 13, Line 2 and see FIGS. 29-31B. Both Imran and Levendowski teach similar mechanical supports for electrodes being capable to be attached to a user's head. Therefore it would have been obvious for one with ordinary skill in the art, at the time of the invention to modify the teachings of Imran to include a radio communications transceiver for transmitting data to an external device, so that no wires are required to

connect the user to a recording and/or data analysis device as taught by Levendowski – Column 13, Lines 3-4.

31. As to **Claim 26**, Levendowski teaches ***rails constructed of an electrically conductive material*** – Column 4, Line 65-67. It is noted that the "conductive fingers" can provide shielding for the data distribution conductors.

32. As to **Claim 27**, it would have been an obvious matter of design choice to make the conductive rails from ***aluminum***. It is well known it the art that there exist several conductive materials with resistance to corrosion and high strength to weigh ratio, while also being a good conductor. Therefore, the choice of aluminum is merely a substitution of one known such material for any other.

33. **Claims 18 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Imran in view of Chance, US 2004/0082862 A1, hereinafter referred to as "Chance." Imran teaches the limitations set forth in Claims 1 and 16 as discussed previously. What Imran does not teach is, with respect to Claim 18, ***wherein at least some of the said further data acquisition nodes acquire optical tomography imaging data*** and, with respect to Claim 20, ***wherein said data acquisition node includes and acquires optical tomography imaging data***. Chance teaches a "combined optical and EEG or MEG brain examination and imaging system" – FIG. 1A – and wherein Chance specifically teaches an EEG examination system (module) as "EEG module, 40, is connected to an ECI electro-cap or another set of probes for measuring brain wave activity" – Paragraph 0051. Both Imran and Chance teach systems and methods to analyze brain activity. Therefore it would have been obvious

to one with ordinary skill in the art at the time of the invention to modify the teachings of Imran to include an optical tomography data node or a plurality of optical tomography imaging data nodes, as it would be beneficial "to evaluate brain function or the veracity of a subject's response an optical signature alone or in combination with a non-optical signature" – Paragraph 17 -- as taught by Chance.

34. **Claims 30 and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Levendowski in view of Chance. Levendowski teaches the limitations set forth in Claims 28 and 29 as discussed previously. What Levendowski does not teach is, with respect to Claim 30, ***wherein at least one of said data acquisition sensors acquires optical tomography imaging data from said selected position on or near the human head,*** and, with respect to Claim 32, ***wherein at least one of said data acquisition sensors acquires optical tomography imaging data***. Chance teaches a "combined optical and EEG or MEG brain examination and imaging system" – FIG. 1A – and wherein Chance specifically teaches an EEG examination system (module) as "EEG module, 40, is connected to an ECI electro-cap or another set of probes for measuring brain wave activity" – Paragraph 0051. Both Levendowski and Chance teach systems and methods to analyze brain activity. Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to modify the teachings of Levendowski to include an optical tomography data node or a plurality of optical tomography imaging data nodes, as it would be beneficial "to evaluate brain function or the veracity of a subject's response an optical signature alone or in combination with a non-optical signature" – Paragraph 17 -- as taught by Chance.

35. **Claims 31 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Levendowski in view of McIntyre.

36. As to **Claim 31,** Levendowski teaches the limitations set for the in Claim 29 as discussed previously. What Levendowski does not teach is ***wherein one of said data acquisition sensors further includes a resilient member for urging said electrically conductive contact against the skin***. McIntyre teaches "the spring, 40, holds the electrode resiliently in place" – Column 3, Lines 57-58. Both Levendowski and McIntyre teach systems for electrode placement for brain activity analysis. Therefore it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the sensors taught by Levendowski to include a resilient member, to hold the sensors or electrodes in place.

37. As to **Claim 34,** Levendowski teaches ***an apparatus for acquiring brain activity data***, or a "portable EEG electrode locator headgear" – Title – that includes ***a rigid helmet anatomically shaped to conform to the human head of a wearer*** – See FIG. 1: a top perspective view of a preferred embodiment of the EEG electrode headgear – ***a plurality of data acquisition sensors attached to an adjustable location on said helmet*** – Column 8, Lines 24-42 – and ***a communications unit attached to said helmet for receiving sensing data from each of said sensors and for transmitting said sensing data to a utilization device external to said helmet*** – Column 12, Lines 57-59. What Levendowski does not teach however is ***wherein each of said sensors includes a probe mounted for movement toward and away from said human head to position a sensing element at or near a selected position on***

the head. McIntyre teaches "an electrode-carrying headgear for electroencephalographic analysis" – Title – that includes such a probe – See FIGS. 3-5. Both Levendowski and McIntyre teach apparatuses that deal with positioning electrodes on a helmet to be used in conjunction with EEG analysis. Therefore it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the sensors taught by Levendowski to include a probe mounted for movement toward and away from a human head, to allow for better positioning of the electrode against the skin.

38. As to **Claim 35**, the "disposable EEG electrodes" taught by Levendowski – Column 2, Lines 60-65 – are capable of establishing an electrically conductive with the skin at said selected position for acquiring data in the form of a biopotential signal.

39. As to **Claim 36,** McIntyre teaches "the spring, 40, holds the electrode resiliently in place" – Column 3, Lines 57-58. Both Levendowski and McIntyre teach systems for electrode placement for brain activity analysis. Therefore it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the sensors taught by Levendowski to include a resilient member, to hold the sensors or electrodes in place.

40. **Claim 37** is rejected under 35 U.S.C. 103(a) as being unpatentable over Levendowski in view of McIntyre, and in further view of Chance. The combination of Levendowski and McIntyre teach the limitations set forth in Claims 34 as discussed previously. What the combination of Levendowski and McIntyre does not teach is ***wherein at least one of said data acquisition sensors acquires optical***

tomography imaging data. Chance teaches a "combined optical and EEG or MEG brain examination and imaging system" – FIG. 1A – wherein Chance specifically teaches an EEG examination system (module) as "EEG module, 40, is connected to an ECI electro-cap or another set of probes for measuring brain wave activity" – Paragraph 0051. Both Levendowski and Chance teach systems and methods to analyze brain activity. Therefore it would have been obvious to one with ordinary skill in the art at the time of the invention to modify the teachings of Levendowski to include an optical tomography data node or a plurality of optical tomography imaging data nodes, as it would be beneficial "to evaluate brain function or the veracity of a subject's response an optical signature alone or in combination with a non-optical signature" – Paragraph 17 -- as taught by Chance.

41. As to **Claim 38**, Levendowski teaches ***wherein said radio transceiver transmits data acquired by said sensors in digital form to said remote data utilization device*** – Column 6, Lines 4-25.

Conclusion

42. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Williams, US 3,464,416;

b. Rolston, US 3,490,439;

c. Sherwin, US 4,709,702;

d. Mann, US 5,800,351;

e. Marro et al., US 6,128,521;

f. Collura et al., US 6,574,513; and

g. Abraham-Fuchs, US 4,974,602.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikram P. Sundararaman whose telephone number is 571-272-3351. The examiner can normally be reached on M-F, 830 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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